MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
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DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

DURO-LAST Roofing, Inc.
525 Morley Drive
Saginaw, MI 48601

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: DURO-LAST Single Ply PVC Roof Systems over Lightweight Concrete Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA No. 12-0516.12 and consists of pages 1 through 16.
The submitted documentation was reviewed by Jorge L. Acebo.

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply
Material:	PVC
Deck Type:	Lightweight Concrete
Maximum Design Pressure	-232.5 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
Duro-Last Membrane	.037" thick, fabricated in sheets up to 3000 sq. ft.	ASTM D 4434	PVC polymer blend polyester reinforced roofing membrane: white, tan or gray.
Duro-Last Membrane	.045" thick, fabricated in sheets up to 2000 sq. ft.	ASTM D 4434	PVC polymer blend polyester reinforced roofing membrane: white, tan or gray.
Duro-Last Membrane	.057" thick, fabricated in sheets up to 1800 sq. ft.	ASTM D 4434	PVC polymer blend polyester reinforced roofing membrane: white, tan or gray.
Duro-Last Duro-Fleece Membrane	.047" thick, fabricated in sheets up to 2000 sq. ft.	ASTM D 4434	PVC polymer blend polyester reinforced fleece backed roofing membrane.
Duro-Last Duro-Fleece Membrane	.056" thick, fabricated in sheets up to 1800 sq. ft.	ASTM D 4434	PVC polymer blend polyester reinforced fleece backed roofing membrane.
Duro-Last Fascia Bar	1 ¾" x 10'; 4" x 10'		Extruded vinyl drip edge with holes punched 8" o.c..
Duro-Last Fascia Bar Cover	1 ¾" x 10'; 4" x 10'		Extruded decorative cover for Duro-Last Fascia Bar: white, tan or gray.
Duro-Last Fascia	2" & 4"	TAS 111	Kynar finish Galvalume, 24 ga., cover
Duro-Last Snap Coping	12"	TAS 111	Kynar finish Galvalume, 24 ga., coping
Duro-Last 2-Piece Metal "T-Edge"		TAS 111	Kynar finish Galvalume, 24 ga., with vinyl skirt
Duro-Last 2-Piece Compression Edge		TAS 111	Kynar finish Galvalume, 24 ga.
Duro-Last Vinyl Coated Metal	4' x 10' .043" thick	G-90	G-90 galvanized steel, laminated with Duro-Last Vinyl Film.

Product	Dimensions	Test Specification	Product Description
Duro-Last Drip Edge	2" face x 10'; 4" face x 10';		Extruded vinyl drip edge with holes punched 8" o.c.
Duro-Last Two-Way Roof Vents			Injection molded two-way roof vents with a Duro-Last membrane skirt.
Duro-Last Gravel Stop	2" face x 10'; 4" face x 10';		Extruded vinyl gravel stop with holes punched 8" o.c.
Roof-Trak III Walk Pads	30" x 60" .125" thick		Extruded vinyl walk way pads manufactured from Duro-Last membrane.
Duro-Last WB II Adhesive	5 gal. pail		Polymeric waterborne membrane adhesive.
Duro-Last SB IV	5 gal. pail		Low VOC solvent-based membrane adhesive.
Duro-Fleece CR-20 Membrane Adhesive	40 lb. Cylinder A 35 lb. Cylinder B		Two-component membrane adhesive.
Duro-Last Accessories	Various	ASTM D 4434	Custom fabricated accessories for parapets and penetrations: Curb flashing, Inside & Outside Corner, Scuppers, Drain Boot, Parapet Flashing, Stack Flashing; all for use in the Duro-Last roofing systems.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ACFoam II, ACFoam III, ACFoam IV	Polyisocyanurate foam insulation	Atlas Roofing Corp
ENRGY-3, JM ISO 3	Polyisocyanurate foam insulation	Johns Manville
EPS	Type IX Expanded polystyrene with a minimum density of 1.8 pcf	Generic
XPS	Type IV Extruded polystyrene with a minimum density of 1.6 pcf	Generic
DensDeck	Silicon treated gypsum	Georgia-Pacific Gypsum LLC
Type X Gypsum	Gypsum board	Generic
ISO 95+ GL	Polyisocyanurate foam insulation	Firestone Building Products
Multi-Max FA-3	Polyisocyanurate foam insulation	Rmax Operating, LLC
H-Shield, H-Shield CG	Polyisocyanurate foam insulation	Hunter Panels, LLC
Duro-Guard Iso II-A, Duro-Guard Iso III-A, Duro-Guard Iso IV-A	Polyisocyanurate foam insulation	Duro-Last Roofing, Inc.
Duro-Guard Iso II-H, Duro-Guard Iso III-H	Polyisocyanurate foam insulation	Duro-Last Roofing, Inc.
SECUROCK Gypsum-Fiber Roof Board	Fiber reinforced insulation board	United States Gypsum Corporation

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Duro-Last Duro-Coated Hex Head Screws	Roofing and insulation fasteners, Duro-Coated with #3 Phillips head.	Various Lengths	Duro-Last Roofing, Inc.
2.	Duro-Last 3" Metal Plates	Galvalume steel stress plates.	3" square	Duro-Last Roofing, Inc.
3.	Duro-Last Insulation Plates	Round plastic stress plates.	3" round	Duro-Last Roofing, Inc.
4.	Duro-Last Poly-plates	Round plastic stress plates.	2" round	Duro-Last Roofing, Inc.
5.	Polymer Gyptec Fastener	Glass reinforced nylon fastener.	Various Lengths	OMG, Inc.
6.	3" GypTec Plates	Galvalume steel stress plates.	3" round	OMG, Inc.
7.	Twin Loc-Nails	Preassembled fastener/plate unit.	Various	ES Products, Inc.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corporation	J.I. 3Y5A6.AM	Class 4470	03-10-95
	J.I. 2M4A8 .AM	Class 4470	03-05-87
	J.I. 3Y5A6.AM	Class 4470	03-10-95
	J.I. 1X2A7 .AM	Class 4470	08-90-99
	3005604	Class 4470	03-13-00
	3008342	Class 4470	10-19-00
	3040741	Class 4470	10-17-11
	3032172	Class 4470	06-12-09
	3023458	Class 4470	07-18-06
Exterior Research & Design, LLC	02732.09.04	ASTM D4434	09-28-04
Trinity|ERD	02750.02.08-R2	ASTM D4434	08-03-12
	D42390.10.12	FM 4474 / TAS 114	10-03-12
	D35210.08.11-R1	ASTM D4434	09-17-12
Intertek Testing Services, NA Inc.	3119586-001	TAS 111	07-10-07
PRI Construction Materials Technologies, LLC	DLRI-018-02-01	FM 4474/TAS 114	09-27-12

APPROVED ASSEMBLIES:

Membrane Type: Single Ply, PVC

Deck Type 4I: Lightweight Concrete Decks, Insulated

Deck Description: Minimum 39 pcf wet cast denstiy; FM Approved Mearlcrete Lightweight Insulation Concrete

System Type A(1): All Layers of Insulation adhered with approved adhesive; membrane fully adhered to insulation.

Deck: Structural Concrete

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam IV, Duro-Guard Iso IV-A Minimum 2" thick	**N/A**	**N/A**
Multi-Max FA-3 Minimum 1.5" thick	**N/A**	**N/A**
ACFoam III, , Duro-Guard Iso III-A, , Minimum 1.3" thick	**N/A**	**N/A**
ISO 95+ GL, ENRGY-3, JM ISO 3, , H-Shield, H-Shield CG, Duro-Guard Iso II-H, Duro-Guard Iso III-H Minimum 1" thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	**N/A**	**N/A**

Note: Layers of insulation shall be adhered with Duro-Fleece CR-20 Adhesive in ribbons, 1.5 in. wide, spaced 12 in. o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Duro-Last membrane fully adhered to the insulation layer with Duro-Last WB II Adhesive applied at a rate of 0.7 gal/sq. Laps are sealed with a minimum 1.5" wide heat weld.
Or
Duro-Last Duro-Fleece membrane adhered with Duro-Last WB II Adhesive at a minimum rate of 1.0 gal/sq. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -75 psf (See General Limitation #9)

Membrane Type: Single Ply, PVC

Deck Type 4I: Lightweight Concrete Decks, Insulated

Deck Description: Minimum 44.4 pcf wet cast denstiy; FM Approved Range II Elastizell Lightweight Insulation Concrete

System Type A(2): All Layers of Insulation adhered with approved adhesive; membrane fully adhered to insulation.

Deck: Structural Concrete

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam IV, Duro-Guard Iso IV-A Minimum 2" thick	**N/A**	**N/A**
Multi-Max FA-3 Minimum 1.5" thick	**N/A**	**N/A**
ACFoam III, , Duro-Guard Iso III-A, Minimum 1.3" thick	**N/A**	**N/A**
ISO 95+ GL, ENRGY-3, JM ISO 3, H-Shield, H-Shield CG, Duro-Guard Iso II-H, Duro-Guard Iso III-H Minimum 1" thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	**N/A**	**N/A**

Note: Layers of insulation shall be adhered with Duro-Fleece CR-20 Adhesive in ribbons, 1.5 in. wide, spaced 12 in. o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Duro-Last membrane fully adhered with Duro-Last WB II Adhesive at a minimum rate of 0.7 gal/sq. Laps are sealed with a minimum 1.5" wide heat weld.
Or
Duro-Last Duro-Fleece membrane fully adhered with Duro-Last WB II Adhesive at a minimum rate of 1.0 gal/sq. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -127.5 psf (See General Limitation #9)

Membrane Type: Single Ply, PVC

Deck Type 4I: Lightweight Concrete Decks, Insulated

Deck Description: Cellular or aggregate lightweight insulating concrete

System Type D: All layers of insulation are preliminarily attached to roof deck as specified below. Membrane is mechanically attached to deck through the insulation layers.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Barrier: Required to be installed between the LWC deck and Insulation layer; any UL or FM approved vapor barrier.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ACFoam II, Duro-Guard Iso II-A, ENRGY-3, JM ISO 3, Any Approved XPS and/or EPS		
Minimum 1" thick	**1 or 5**	**1:4 ft²**
	1 or 5	**1:6.4 ft²**

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Fire Barrier: Atlas Roofing Corporation FR-10®, ¼" DensDeck, ½" thick UL Classification Type X Gypsum with a moisture resistant facer and core, or a second sheet of barrier board may be used over the insulation (see General Limitation #1).

Membrane with 57" tabs: Duro-Last® membrane shall be mechanically attached at its 3" tabs, spaced every 57" with Duro-Last fasteners and Duro-Last Poly-Plates® spaced 12" o.c. maximum, through the insulation and into the structural deck. Laps are sealed with a minimum 1.5" wide heat weld.

Membrane with 27" tabs: Duro-Last® membrane shall be mechanically attached at its 3" tabs, spaced every 27" with Duro-Last fasteners with Duro-Last Poly-Plates® spaced 18" o.c. maximum, through the insulation and into the structural deck. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -45 psf (See General Limitation #7)

Membrane Type: Single Ply, PVC

Deck Type 4: Lightweight Concrete Decks, Non-Insulated

Deck Description: Cellular or aggregate lightweight insulating concrete

System Type E(1): Membrane mechanically attached to roof deck.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Barrier:	(Optional) Required if DensDeck or Type X Gypsum is used as a fire barrier. Any UL or FM approved vapor barrier.
Fire Barrier:	Atlas Roofing Corporation FR-10®, ¼" DensDeck, ½" thick UL Classification Type X Gypsum with a moisture resistant facer and core, or a second sheet of barrier board may be used over the insulation (see General Limitation #1).
Membrane with 57" tabs:	Duro-Last® membrane shall be mechanically attached at its 3" tabs, spaced every 57" with Duro-Last fasteners and Duro-Last Poly-Plates® spaced 12" o.c. maximum, through the lightweight concrete and into the structural deck. Laps are sealed with a minimum 1.5" wide heat weld.
Membrane with 27" tabs:	Duro-Last® membrane shall be mechanically attached at its 3" tabs, spaced every 27" with Duro-Last fasteners with Duro-Last Poly-Plates® spaced 18" o.c. maximum, through the lightweight concrete and into the structural deck. Laps are sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure:	-45 psf (See General Limitation #7)

Membrane Type:	Single Ply, PVC
Deck Type 4:	Lightweight Concrete Decks, Non-Insulated
Deck Description:	Elastizell cellular lightweight concrete cast with Zell-Fibers in the mix, wet cast density of 46-50 pcf, 350 psi compressive strength. Slurry coat, followed by 1" thick EPS Holey Board placed into the wet concrete, followed by a minimum 2" thick top coat of Elastizell cellular lightweight concrete.
System Type E(2)	Anchor sheet mechanically fastened to LWC deck subsequent membrane adhered.
Deck:	22 ga, type B, vented steel deck attached to supports at 7 ft spans using ITW Buildex Traxx/5 fastners spaced 6" o.c. (each flue). Side laps attached with Buildex Traxx/1 fasteners spaced 20" o.c..

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Anchor Sheet:	JM PermaPly 28 or GAFGLAS #75 base sheet mechanically fastened to the deck as described below:
Fastening:	Anchor sheet attached to deck with Twin Loc-Nails spacing of 7.5" o.c. at the 3" side laps and 7.5" o.c. in two equally spaced staggered center rows.
Membrane:	Duro-Last Duro-Fleece membrane fully adhered with Duro-Fleece CR-20 Adhesive applied using a splatter pattern at a rate of 7 lbs/square. Laps are sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure:	-67.5 psf (See General Limitation #7)

Membrane Type: Single Ply, PVC

Deck Type 4: Lightweight Concrete Decks, Non-Insulated

Deck Description: Elastizell cellular lightweight concrete cast with Zell-Fibers in the mix, wet cast density of 46-50 pcf, 350 psi compressive strength. Slurry coat, followed by 1" thick EPS Holey Board placed into the wet concrete, followed by a minimum 2" thick top coat of Elastizell cellular lightweight concrete

System Type F(1): Membrane adhered to LWC deck.

Deck: 22 ga, Type B, vented steel deck attached to supports at 7 ft spans using ITW Buildex Traxx/5 fastners spaced 6" o.c. (each flue). Side laps attached with Buildex Traxx/1 fasteners spaced 20" o.c.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: Duro-Last Duro-Fleece membrane fully adhered with Duro-Fleece CR-20 Adhesive applied using a splatter pattern (as specified in Duro-Last's CR-20 data sheet) at a rate of 7 lbs/square. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -52.5 psf (See General Limitation #9)

Membrane Type:	Single Ply, PVC
Deck Type 4:	Lightweight Concrete Decks, Non-Insulated
Deck Description:	Minimum 36 pcf wet cast denstiy; 1/8" thick slurry of Celcore MF Cellular concrete with Celcore HS Rheology Modifying Admixture is poured over the steel deck. Min 1" thick Insulfoam Holey Board is placed into the wet concrete, followed by a minimum 2" thick, 45.6 pcf wet cast density, top coat of Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture. After allowing to cure, Celcore PVA Curing Compound is spray applied at a minimum rate of 0.33 gal/sq.
System Type F(2):	Membrane fully adhered to LWC deck.
Deck:	22 ga, type B, vented steel deck attached to supports at 4 ft spans using ITW Buildex Traxx/5 fastners spaced 6" o.c. (each flue). Side laps attached with Buildex Traxx/1 fasteners spaced 24" o.c. (three evenly spaced fasteners between supports).

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane:	Duro-Last Duro-Fleece membrane (min. 0.057") fully adhered with Duro-Last WB II Adhesive applied at 100 ft^2/gallon. Laps are sealed with a minimum 1.5 in. heat weld. Laps are sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure:	-60 psf (See General Limitation #9)

Membrane Type:	Single Ply, PVC
Deck Type 4:	Lightweight Concrete Decks, Non-Insulated
Deck Description:	Minimum 45.6 pcf wet cast denstiy; 0.5" thick slurry of Celcore MF Cellular concrete with Celcore HS Rheology Modifying Admixture is poured over the concrete deck. Min 1" thick Insulfoam Holey Board is placed into the wet concrete, followed by a minimum 2" thick top coat of Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture. After allowing to cure, Celcore PVA Curing Compound is spray applied at a minimum rate of 0.33 gal/sq.
System Type F(3):	Membrane fully adhered to LWC deck.
Deck:	Structural Concrete

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane:	Duro-Last Duro-Fleece membrane fully adhered with Duro-Last WB II Adhesive applied at 100 ft^2/gallon. Laps are sealed with a minimum 1.5 in. heat weld.
Maximum Design Pressure:	-82.5 psf (See General Limitation #9)

Membrane Type:	Single Ply, PVC
Deck Type 4:	Lightweight Concrete Decks, Non-Insulated
Deck Description:	Minimum 45.6 pcf wet cast denstiy; 0.5" thick slurry of Celcore MF Cellular concrete with Celcore HS Rheology Modifying Admixture is poured over the concrete deck. Min 1" thick Insulfoam Holey Board is placed into the wet concrete, followed by a minimum 2" thick top coat of Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture. After allowing to cure, Celcore PVA Curing Compound is spray applied at a minimum rate of 0.33 gal/sq.
System Type F(4):	Membrane fully adhered to LWC deck.
Deck:	Structural Concrete

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane:	Duro-Last Duro-Fleece membrane (min. 0.057") fully adhered with Duro-Fleece Membrane Adhesive aplied in continuous 1 in. wide ribbons spaced 4 in. o.c. allowed to expand to full coverage prior to applying the membrane. Laps are sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure:	-232.5 psf (See General Limitation #9)

Membrane Type:	Single Ply, PVC
Deck Type 4:	Lightweight Concrete Decks, Non-Insulated
Deck Description:	Minimum 340 psi; 1/8" thick slurry of Celcore MF Cellular concrete with Celcore HS Rheology Modifying Admixture is poured over the steel deck. Min 1" thick EPS is placed into the wet concrete, followed by a minimum 2" thick top coat of Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture. After allowing to cure, Celcore PVA Curing Compound is spray applied at a minimum rate of 300 ft^2/gal.
System Type F(5):	Membrane adhered to LWC deck.
Deck:	22 ga, type B, vented steel deck attached to supports at 5 ft spans using 5/8" puddle welds (each flute). Side laps attached with #¼ -14 x 7/8" HWH SD fasteners with ½" washers spaced 15" o.c.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane:	Duro-Last Duro-Fleece membrane fully adhered with Duro-Fleece CR-20 Adhesive applied in "splatter pattern" (as specified in Duro-Last's CR-20 data sheet) at a rate of 8 lbs/100 ft^2. Laps are sealed with a minimum 2 in. heat weld.
Maximum Design Pressure:	-45 psf (See General Limitation #9)

LIGHTWEIGHT INSULATING CONCRETE SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117 and/or RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.
3. For Systems where specific lightweight insulating concrete si referenced consult current lightweight insulating concrete NOA for specific deck construction and limitations. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 300 psi.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.
   Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE